

- 1 -

DENTAL COMPOSITES AND PLACEMENT TECHNIQUES FOR DIRECT RESTORATIONS

[0001] This application claims the benefit of United States Provisional
5 Patent Application Serial Number 60/531,886, filed December 22, 2003.

FIELD OF THE INVENTION

[0002] This invention relates to dental composites and methods for their
use in placement/build-up techniques in direct restorations.
10

BACKGROUND OF THE INVENTION

[0003] Dental restoratives are well known in the art and include for
example, crowns, inlays, onlays, veneers, and fillings. Restorative materials are
those utilized in repairing a damaged tooth, or in replacing an entire tooth. When
15 repairing a damaged tooth, it is desirable not only that the tooth be returned to a
useful state, but that it also be returned as close as possible to its natural aesthetic
state, such that the color and appearance of the restored tooth blend in with the
surrounding natural dentition.

[0004] Dental restorations are typically prepared according to two
20 different techniques: (1) *in situ* or direct restorations, wherein the restoration is
fabricated directly in the patient's mouth; and (2) indirect restorations, wherein the
restoration is fabricated directly in a dental laboratory and subsequently
communicated to the dental practitioner for placement in the patient's mouth.
Direct restorations typically involve issues such as repairing a cracked tooth,
25 treating a tooth for decay or filling in a space between adjoining teeth. Indirect
restoration techniques are typically employed for more complex dental repairs,
such as, for example, the replacement of a complete tooth. Indirect restorations
are typically fabricated from ceramics or porcelains and involve the build-up of
sequential layers of material. While indirect techniques are inherently more
30 expensive, time consuming and require a greater level of technical expertise than
direct placement techniques, they allow for a higher degree of aesthetic precision
and typically provide a very natural looking restoration.